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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,030	09/26/2005	Kenzo Miya	265347US2XPCT	8402
22850 7590 02/08/2008 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER NGUYEN, TRAN N	
			ART UNIT 2834	PAPER NUMBER
			NOTIFICATION DATE .02/08/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/523,030

Applicant(s)

MIYA ET AL

Examiner

Tran N. Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claim 1** is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's **Admitted Prior Art Figures 1-2 (AAPA figs 1-2)** in view of **Takahata et al (US 5,763,971)** and **Shiga et al (US 6,093,984)**.

AAPA figs 1-2 disclose a superconductive magnetic bearing comprising a stationary bearing portion having an annular superconductor unit provided on a fixed portion, and a rotatable bearing portion having an annular permanent magnet unit with yoke therein provided on a rotary portion so as to be opposed to the superconductor unit; particularly the superconductor unit comprising a plurality of circumferentially divided superconductor bulks (6, in AAPA fig 2), the adjacent superconductor bulks (6) coming into contact with each other without a gap to constitute the superconductor unit, and the rotary portion being contactlessly supported relative to the fixed portion by the pinning effect of a superconductor constituting the superconductor unit.

AAPA Figs 1-2 substantially discloses the claimed invention except for the following limitations:

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(a) the permanent magnet unit comprises a plurality of permanent magnet members arranged in superposed layers with an insulating layer provided between each adjacent pair of magnet members, and

(b) the yoke comprises a plurality of yoke members made of a magnetic material and arranged in superposed layers with an insulating layer interposed between each adjacent pair of yoke members.

Regarding the magnet unit, **Yamakoshi**, however, teaches a permanent magnet unit comprising a plurality of permanent magnet members (10, 11 in figs 1-4) being arranged in superposed layers with an insulating layer provided between for the purpose of reducing eddy currents resulting in less energy loss.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the AAPA figs 1-2 disclose a superconductive magnetic bearing by configuring the permanent magnet unit with laminated permanent magnet members being arranged in superposed layers with an insulating layer provided between two adjacent laminated magnet members, as taught by **Yamakoshi**. Doing so would improve the efficiency of the magnetic bearing device because laminated magnet unit would reduce eddy currents resulting in less energy loss and more efficient performance thereof.

Regarding the yoke comprises a plurality of yoke members made of a magnetic material and arranged in superposed layers with an insulating layer interposed between each adjacent pair of yoke members, and particularly newly added limitations of the insulating layers of the yoke members are configured to contact substantially an entire area of a contact surface of each adjacent yoke member. **Shiga** teaches a yoke (36) comprises a plurality of yoke members (40 in fig 6) made of a magnetic material, particularly steel material, and arranged in superposed layers with an insulating layer interposed between each adjacent pair of yoke members (40). **Shiga** specifically teaches that since the axially stacked steel sheets 40 are insulated from one another, eddy-current loss about the magnetic flux can be prevented and accordingly, the magnetic property can be improved (col 7 lines 28-31). As **Shiga's** teaching of "**the stacked steel sheets (40) are insulated from one another**" (col 7 lines 28-31), those skilled in the art would understand that, for the yoke's adjacent magnetic laminated sheets being insulated from one another, they must be insulatedly separated from one another via the insulating layer; thus, the

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insulating layer would obviously be contacting substantially the entire surface of each laminated sheet in order to insulate the laminated sheets from one another. Thus, implicitly Shiga does teach the newly added limitations of the insulating layers of the yoke members are configured to contact substantially an entire area of a contact surface of each adjacent yoke member. Such yoke having stacked laminated sheets being insulated from one another is for the purpose of reducing eddy-current loss about the magnetic flux can be prevented and accordingly, the magnetic property can be improved (as taught by Shiga col 7 lines 28-31).

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the AAPA figs 1-2 disclose a superconductive magnetic bearing by configuring the yoke with a plurality of magnetic yoke members being laminated in superposed layers with an insulating layer interposed between each adjacent pair of yoke members and the insulating layers of the yoke members are configured to contact substantially an entire area of a contact surface of each adjacent yoke member, as taught by **Shiga**. Doing so would reduce magnetically nonuniformity, and eddy-current loss resulting in improving magnetic property and performance of the magnetic bearing.

Response to Arguments

Applicant's arguments filed 12/13/07 have been fully considered but they are not persuasive. The applicant asserts that Shiga merely discusses that the steel sheets 40 are caulked to mechanically connected together. There is no teaching or suggestion for having the insulating layers of the yoke members configured to contact substantially an entire area of a contact surface of each adjacent yoke member.

In response to this argument, while Shiga's teaching of various embodiments of fabricating the yoke, Shiga does teach the yoke (36) being formed by stacking a plurality of steel laminated yoke members (40) are insulated from one another, eddy-current loss about the magnetic flux can be prevented and accordingly, the magnetic property can be improved (col 7 lines 28-31). As **Shiga's** teaching of **"the stacked steel sheets (40) are insulated from one another"** (col 7 lines 28-31), those skilled in the art would understand that, for the yoke's adjacent magnetic laminated sheets being insulated from one another, they must be insulatedly separated from one another via the insulating layer; thus, the insulating layer would obviously be contacting substantially the entire surface of each laminated sheet in order to insulate the

laminated sheets from one another. Thus, implicitly Shiga does teach the newly added limitations of the insulating layers of the yoke members are configured to contact substantially an entire area of a contact surface of each adjacent yoke member. Such yoke having stacked magnetic sheets being insulated from one another is for the purpose of reducing eddy-current loss about the magnetic flux can be prevented and accordingly, the magnetic property can be improved (as taught by Shiga col 7 lines 28-31).

Furthermore, for different point of view, since Shiga teaches the yoke's laminated magnetic sheets being insulated to one another; thus, they must be insulatedly separated from one another via the insulating layer. This is the Shiga essential teaching that would have been obvious to an artisan to apply with the necessary knowledge and mechanical skills to modify the insulating layers by changing size thereof so that the insulating layers would contact substantially an entire area of a contact surface of each adjacent yoke member in order to ensure insulating between two adjacent laminated magnetic sheets. It has been held that a change in size or shape is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955) (emphasis added).

Also, magnetic yokes and magnetic cores having stacked magnetic laminated sheets being insulated from one another are well know in the art (see cited refs for evidence supporting this statement), such yokes and cores would reduce eddy-current loss and improve magnetic properties thereof.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N. Nguyen whose telephone number is 571-272-2030. The examiner can normally be reached on 7:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. (**Note: Use this Central Fax number 571-273-8300 for all official response.**)

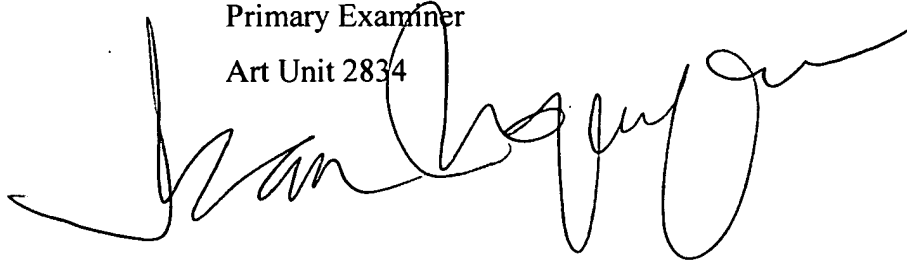
Do **not** use the Examiner's RightFax number without informing the Examiner first because, according to the USPTO policy, any document being sent via RightFax is treated as unofficial response and will not be officially dated until it is routed to the Central Fax.

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Tran N. Nguyen

Primary Examiner

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A handwritten signature in black ink, appearing to read 'Tran N. Nguyen', is written over the typed name and title.